WHAT IS CLAIMED IS:

1. A method for coating a micro-electromechanical system device, the method comprising:

mounting the device on a substrate, the substrate including an aperture having a first opening proximate to the device and a second opening connected to the first opening;

applying a vacuum to the second opening; and

applying a coating material over the device;

wherein the vacuum aids in the homogeneous distribution of the coating material on the device by drawing a portion of the coating material over the device and towards the first opening.

2. The method of claim 1 further including applying a vibration to the device, the vibration aiding in the homogeneous distribution of the coating material over the device.

3. The method of claim 2 wherein the vibration is applied using a piezoelectric transducer.

4. The method of claim 2 further including defining an amount of vibration to be applied depending on a consistency of the coating material.

5. The method of claim 1 further including defining a strength of the vacuum to be applied depending on the consistency of the coating material.

6. The method of claim 5 further including defining the strength of the vacuum to be applied depending on the dimensions of the aperture.

7. The method of claim 1 further including allowing the coating material to harden into a porous enclosure.

8. A method for applying a coating layer to a micro-electromechanical system device, the method comprising:

applying a vacuum proximate to the device;

applying a vibration to the device; and

pouring a coating material over the device,

whereby the vacuum and the vibration provide a homogenous distribution of the coating material over the device.

9. The method of claim 8 further including allowing the coating material to harden into a gas permeable shell.

10. The method of claim 8 wherein the device is a sphere.

11. The method of claim 8 wherein the device is an accelerometer.

12. The method of claim 8 further including attaching the device to a substrate, the substrate including an aperture having a first opening located proximate to the device and a second opening connected to the first opening, and wherein the vacuum is applied to the second opening and exerts an attractive force that is operable to draw at least a portion of the coating material towards the first opening.

13. A method for increasing adhesion between a micro-electromechanical system device and a gas-permeable outer layer, the method comprising:

applying a gas-permeable inner layer to the device, the inner layer having a high level of adherence to the device; and

applying the outer layer over the inner layer, the outer layer having a lower level of adhesion to the device than the inner layer.

14. The method of claim 13 wherein the outer layer is more porous than the inner layer.

15. The method of claim 13 further including adding at least one gas-permeable middle layer between the inner and outer layers, the middle layer adhering to both the inner and outer layers.

16. The method of claim 15 wherein the middle layer is more porous than the inner layer and less porous than the outer layer.

17. A method for hermetically sealing a micro-electromechanical system device having a gas-permeable exterior coating, the method including:

providing an attractive material operable to attract gas molecules, the attractive material positioned proximate to the device; and

depositing a sealing layer over the device and the attractive material, the sealing layer operable to seal a plurality of pores present in the gas-permeable exterior coating, and the attractive material operable to attract gas molecules trapped inside the device after the sealing layer is deposited.

18. A micro-electromechanical system device, the device comprising:

an inner core;

a sacrificial layer surrounding the core;

a shell surrounding the sacrificial layer and including a first gas-permeable protective layer surrounding the shell;

so that the sacrificial layer can be etched through the first protective layer to allow the core to move within the shell.

19. The device of claim 18 wherein the shell further includes a second gas-permeable protective layer surrounding the first protective layer, wherein the first protective layer provides an adhesive bond between the shell and the second protective layer.

20. The device of claim 18 wherein the shell further includes a sealing layer, the sealing layer operable to seal a plurality of pores present in the first protective layer.

21. The device of claim 20 further including an attractive material, the material operable to attract gas molecules trapped inside the sealing layer.